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THE CASE AGAINST ANTIBALLISTIC MISSILE SYSTEM

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WHEN CHINA EXPLODED a hydrogen bomb, waves of concern spread around the world. Renewed calls were raised in the United States for a defense that would protect us from Chinese nuclear ballistic missiles. These calls have now been heeded by President Johnson. Scientists agree that neither the United States nor the Soviet Union can protect itself completely from a nuclear attack by the other. But as long as Communist China's primitive missile force is very small, some protection *can* be achieved—and this is what the President has decided to buy. Because he couldn't persuade the Russians to consider limitations on missile defenses, the President has now ordered the building of a "thin" defensive system to protect us from the Chinese. The logic of the President's decision seems mighty tortured.

The word in Washington is that President Johnson was forced to bend under the pressure of the military, congressional and industrial sponsors of the antiballistic-missile system. Enormous pressure certainly existed, but such pressure on a President to build a missile-defense system is not new. Both President Eisenhower and President Kennedy were exposed to it. One of the most difficult decisions President Kennedy had to make concerned the Nike-Zeus missile-defense system. The pressures on him were tremendous, but after long, careful study, he decided, on technical grounds, not to build the Nike-Zeus. Today, we know that to have built that system would have wasted between $20 and $30 billion. It would have been already obsolete. I am certain that the system we are now planning will be regarded as ineffective before it is installed.

Secretary of Defense McNamara estimates that the United States could build an ABM system (for between $3 and $6 billion) that would provide a reasonably effective defense against Chinese ballistic missiles—for 10 to 15 years. But he concedes that such a system would do us little good against an attack by the Russians. Even if the thin ABM system is as effective as the Secretary of Defense says—and I strongly question this—should we take the portentous step of deploying an ABM system for protection against Red China? I think we should not.

In his long statement announcing the President's decision to build an anti-Chinese ABM system, Secretary McNamara concludes that the arguments marginally support its construction. This is obviously a matter of judgment. I think the arguments are overwhelmingly against building it. In fact, I believe that this decision could be as wrong and have as serious domestic and international consequences as the disastrous conclusion six years ago that a few military advisers and some weapons would lead to an early victory for South Vietnam's forces.

In the late 1950's, the United States first began to examine the problem of defense against ballistic missiles. At that time, the only useful concept involved low-altitude interceptor missiles armed with nuclear weapons. The idea was that radars would track an incoming enemy missile and guide our "anti-missile missile" near enough so that the nuclear warhead, exploded at the right time, would destroy the enemy missile. One defensive rocket would be fired against each incoming object. But an enemy could easily confuse the radars—by including along with the real nuclear warheads high-altitude "decoys," such as lightweight metallic balloons. Since decoys break up or slow down when they hit the earth's atmosphere, we hoped that by waiting, we could pick out the real warheads and launch a defensive attack. The antimissile missiles would have to be placed near each city to be defended, and the tremendous heat and blast caused by the explosion of the defensive warheads, low over the cities, could inflict terrible civilian casualties. It was possible that such a defensive system would do as much damage as enemy warheads. The Nike-Zeus plans, therefore, included a major fallout-shelter program.

During the past two years, it has appeared feasible to build high-altitude defensive missiles for use against small-scale attacks. The nuclear warheads on the high-altitude missiles would be exploded far out in space—in an attempt to destroy both the decoys and the real enemy warheads. In this way, some defense

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of a much wider region, farther from each antimissile site, would be possible. The proposal is that, with enough sites, the entire United States can be protected. But this will not prevent an attacker from sending his decoys and warheads in time and spreads them over a large area, or precedes them by a nuclear explosion of his own to "black out" our defending radars. High-altitude defense represents an improved approach to the problem of defense against ballistic missiles, but it is by no means a solution.

The basic technical fact about an ABM defense is that a sophisticated opponent can overcome any defense currently possible. Offense has all of the advantages; any defense system can be overpowered.

Today, the nuclear powers rely on the deterrent effect of their offensive missiles to keep the peace. A powerful incentive, therefore, exists for either side to increase its offensive-missile forces the moment the other starts to build an ABM system.

The Russians appear to be building a simple ABM defense around Moscow, and possibly other areas, though it is yet unclear that they have decided on a full-scale, antimissile defense system. In response, the United States has taken steps to add decoys and multiple warheads to its own offensive-missile force. These actions on our part are still quite limited, but the steps we have already taken, especially the introduction of multiple warheads on each missile to overwhelm possible Soviet defenses, will greatly increase the number of missile warheads in our inventory. The Russians appear to have been taking similar steps in anticipation of a U.S. decision to build an ABM system. An ABM system in the U.S. will stimulate the Soviets to increase the number of their offensive warheads.

The United States is earnestly seeking some agreement with the Soviet Union to limit the deployment of ABM systems and missiles, in order to forestall a new spiral in the arms race. Unofficial conversations have been held with individual Russians, but we have not succeeded in getting discussions started at an official government level. In Glassboro, President Johnson repeated to Mr. Kosygin our willingness to explore the problem. The Soviet Union does not seem ready to discuss such questions—yet. But there is no need for us to rush into an ABM deployment.

THERE IS LITTLE RELATION between a Russian decision to deploy an ABM system (if, indeed, they have made a decision for more than an experimental system) and such a decision here. Our security would be seriously endangered if the Russians installed an effective ABM defense that could prevent our missile force from reaching their territory and if they simultaneously developed an effective defense against our Strategic Air Force bombers—something they have not been able to do so far. Since it is obvious folly for us to build a defense against missiles while we also are so vulnerable to a bomber attack, the Pentagon has quietly decided to spend four billion more dollars improving our air-defense system.

I do not believe that a really effective antimissile system is remotely possible for either the U.S. or the Russians. And even if the Russians could develop one, and a truly effective defense against our SAC bombers as well, our installing an ABM system would not restore our powers of deterrence. Only improvements in our own offensive-missile force, including "penetration aids" such as decoys and electronic jammers to ensure that our missiles could get through the Russian defense, could achieve this. This is our Defense Department's basic strategy.

The United States has embarked on a large, expensive program of outfitting ballistic missiles with multiple warheads and other devices to penetrate Russian defenses. We have also started a $2 billion program to replace our submarine-based Polaris missiles with the larger Poseidon missiles, which can carry more and better penetration aids. As long as we continue to improve our missile forces and maintain our B-52 bomber force, our deterrent power will remain effective. An ABM system is not required to preserve the power and the effectiveness of our deterrents.

We should build an ABM system only if it gives us greater security. And in deciding this, we must assume that the Russians will respond to our ABM system by upgrading and enlarging their missile force—just as we are doing in response to their ABM activities. If the Russians were to do this, an American ABM system would leave us with less security and more vulnerable to destruction.

Secretary McNamara and many proponents of an ABM system concede that an anti-Soviet ABM defense would not be worth the huge expense, because the Russians could nullify its effectiveness at considerably lower cost to themselves. So the proponents now argue: We can at least provide ourselves with protection against Red China at a more modest cost and without starting a new Russian-American arms spiral. Is this so? Again, I think not.

An ABM system would grant us some protection against China's missiles during the early years of its missile buildup; but this protection would not be complete, and it would be short-lived, certainly, much shorter than 15 years. Once the Chinese can build intercontinental missiles, the cost to them of producing additional missiles would be relatively small (perhaps $5 to $10 million per missile). Within a short time, they would have enough missiles (say, 50 to 100) to penetrate our "anti-Chinese" ABM system.

The Chinese would certainly build penetration aids into their missile force. The techniques of designing such aids are neither highly complex nor exceedingly costly (one can learn all about them in American aerospace journals). I do not believe, therefore, that an ABM system will give us either complete or lasting protection against Chinese missiles. I am convinced we must rely instead on the offensive deterrent, as we must with the Russians; that is, we must rely on our known ability to retaliate devastatingly in case of a nuclear attack. Ten percent of our SAC bomber force could kill 200 million Chinese.

I am very skeptical that any ABM system based on the present approach will ever work at its calculated effectiveness. No one has even succeeded in developing an antiaircraft defense that is as much as ten percent effective (three percent is a more common actual effectiveness). An ABM system that was only this effective would be almost worthless. Even if an ABM system were as much as 90 percent effective, it could still not prevent an opponent from inflicting millions of fatalities on us.

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Besides, whenever an ABM system might be installed, how could a realistic test be made? We could not fire missiles at it (it would be located within the continental United States), and from hard experience during World War II, we know that far simpler devices (such as submarine torpedoes) fail to work the first time. I realize that a model system is being tested on Kwajalein, but these tests are under laboratory conditions and cannot simulate a nationwide installation manned by GI's and technicians. Even if we were willing to fire missiles at the system, the test would not be completely realistic, for we would be testing against our missiles, not enemy warheads. Few competent people expect the extremely complex ABM system to work the first time; yet it must to have any effect!

There will always remain a big chance that even if the system is working as designed, it will not intercept all of the enemy missiles. They will obviously know how our ABM system works; we will know little about their offensive weapons. Imagine the advantage a football team would have if it knew precisely its opponents' defense on every play. Remember that if a single enemy nuclear weapon leaks through the defense to a city, the city will be destroyed.

Besides, the Chinese could bypass our ABM system completely—either with low-altitude missiles launched from submarines or with aircraft, which, surprisingly enough, are more difficult to intercept than intercontinental ballistic missiles because they come in at relatively low altitude and do not follow predictable projectories the way a missile does. We simply cannot rely upon an ABM system to give us a sure defense against a Chinese attack.

Many people also fear that the deterrent power on which we rely against the Soviet Union will not be effective against China. The exceptional anxiety expressed each time the Chinese carry out a nuclear test seems related not to their military potential but to our view of them as irrational or unstable. This anxiety rises more from Chinese rhetoric than Chinese actions. Although the words of China's leaders have been inflammatory in the extreme, in action, they have been exceedingly cautious.

China's actual military capacity is, most likely for decades to come, hardly comparable to that of either the United States or the Soviet Union. The Chinese have an extremely limited industrial capacity (until now, they have produced no aircraft of their own!). They also lack the broad base of technically trained manpower that is absolutely necessary for a modern military establishment. Nonetheless, they have made remarkable progress in developing nuclear weaponry. They took less time than any of the other nuclear powers to carry out a thermonuclear explosion. In this, they received considerable help from the Soviet Union, in the late 1950's, as well as a good deal of technological information from open sources and their own intelligence network. And they do appear to be making progress on missiles capable of carrying nuclear weapons. Already they have the capability to deliver nuclear weapons on a short-range missile. Though we have no evidence of a Chinese long-range ballistic missile, we know that their resources are adequate to develop one and, I believe, produce it in moderate numbers (100-200) in less than a decade.

During the late 1950's, many statements by Chinese leaders minimized the importance of nuclear weapons, arguing that they did not really change the relative power balance. We heard boasts that China alone among the great powers would be able to survive a nuclear war. All this has changed. The Chinese now renounce any intention of being the first to use their nuclear weapons, and they show every sign of a growing sophistication in nuclear matters, which is to be expected as they acquire knowledge of the terrible effects of nuclear explosions.

IT IS CHINA'S NEIGHBORS, not we, who would be most directly threatened by any Chinese missile force, and an ABM system in the U.S. would be of little help to them. We could not deploy an ABM system in India and Japan; they are too close to China to permit the system to work effectively. What, then, must the leaders and people of Japan and India think as we make plans to hide under an ABM umbrella while they have no way to defend themselves? If the United States is so fearful of China that it must create an ABM defense, should not Japan and India conclude that it is time for them to make their peace with the Chinese? There is no easier way for us to build up China in Asian eyes. No Asian can afford to believe that we are prepared to lose New York to counter a Chinese nuclear attack against them. Some Indian officials are already asking for a missile-defense system.

Can we build a limited ABM system to protect us against China without stimulating the Soviet Union to respond with an offensive-force buildup of its own? I think not. Just as we are enlarging our missile forces because we cannot wait to see whether the Soviet Union is building a limited or an extensive ABM system, so the Russians could not wait to see whether our system would be a limited one before embarking on an offensive-missile buildup. Even if, as the President proposes, we build a thin ABM system, it would be unlikely to remain small; pressures from the military and industrial establishment to improve—and expand—it would be irresistible. Most military planners expect the system to expand rapidly, and in fact do not consider the initial system to be of much use. This is the reality of the President's decision. I am convinced that once we decide to take the ABM route, we cannot avoid an enlarged arms race.

Three other consequences of the President's decision are not generally appreciated. First, an expanded ABM system will be needed eventually to cope with decoys and multiple warheads. It will almost certainly raise the issue of fallout shelters to protect the population both from Russian nuclear weapons and our own protective system.

Secondly, no one has bothered to mention the several hundred million dollars a year that it will cost to maintain and operate even this thin system or the billions of dollars it would take to run the final one.

Finally, our only substantial arms limitation accomplishment, the limited test ban treaty, is likely to be a victim of this step-up in the arms race. The

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developers of the ABM system will soon be telling us that they cannot assure its effectiveness without nuclear tests in the atmosphere. The pressure on the President to renounce the treaty in the interest of national security and protecting our multi-billion-dollar investment will be overwhelming.

The United States and Russia are learning to work together to create a more rational world order. Gone are those deep fears of a surprise attack that dominated the 1950's. The best hope for the future lies in joint efforts by the Soviet Union and the United States to eliminate the arms race. Such efforts will be impossible if each side is forced to offset the defensive and offensive buildup of the other.

Under the present circumstances, we are going to have to accept and live with a "deterrent balance." We have done it with the Russians. We will have to with the Chinese. There just is no way to avoid this; there is no magical or technical escape from the dilemmas of the nuclear age through defense. A sensible course would be to reduce greatly the offensive-missile forces on both sides, achieving the deterrence with much less danger to all of us.

Like most other scientists who have studied its problems, I am convinced that much mutually coordinated disarmament is technically achievable with considerably less risk, effort and cost than is involved in our current deterrent position. The blocks to disarmament are political and psychological, not technical. Unfortunately, disarmament has no effective political support, no vested interests backing it, and no power base in the Government bureaucracy or in the Congress. Some of the same senators who have been pressing the President to spend tens of billions of dollars on defense against a missile attack have consistently tried to cut the tiny budget of the Arms Control and Disarmament Agency. Substantial balanced disarmament is sensible, safe and technically achievable, and even partial disarmament would release many tens of billions of dollars for constructive uses. But it is not coming very fast. Until statesmen take disarmament efforts seriously and fashion international security arrangements more appropriate to the nuclear age we all live in, the best we can hope for is an increasingly nightmarish peace insured by only a balance of terror.

A real defense against nuclear-armed missiles is a mirage. Our only real security lies in peace itself. Nuclear weapons are just too potent for effective defense. The best defense is to prevent a nuclear war.

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